

SERIAL NO.: 09/229,283  
Response to Office Communication dated 11/18/04  
Amendment dated December 29, 2004

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of the Claims:**

1. (PREVIOUSLY PRESENTED) A method for diagnosing melanoma which comprises:
  - (a) contacting *in vitro* a biological specimen containing malignant cells with a probe which selectively recognizes microphthalmia (Mi); and
  - (b) determining whether Mi is being expressed in the specimen by the probe's binding to Mi, wherein said binding is indicative of Mi expression and, wherein the expression of Mi in a malignant cell is indicative of melanoma.
2. (ORIGINAL) The method of claim 1, wherein the probe is an antibody for Mi.
3. (PREVIOUSLY PRESENTED) The method of claim 1, wherein the probe detects the presence of an mRNA expressing Mi.
4. (PREVIOUSLY PRESENTED) The method of claim 1, wherein the biological specimen consists of malignant cells.
5. (WITHDRAWN) A method for determining whether a malignant cell is a melanoma comprising:  
determining whether microphthalmia (Mi) is being expressed in the nucleus of the malignant cell by using a probe for Mi, wherein the expression of Mi is indicative of the malignant cell being a melanoma.
6. (WITHDRAWN) The method of claim 5, wherein the probe is an antibody for Mi.
7. (WITHDRAWN) The method of claim 6, wherein the antibody is a monoclonal antibody.
8. (WITHDRAWN) A kit for determining whether a malignant cell is a melanoma which comprises a probe for Microphthalmia (Mi) and instructions for use.

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9. (WITHDRAWN) The kit of claim 8, wherein the probe comprises 2 primers that permit the synthesis of human Mi and the kit further comprises reagents to carry out the polymerase chain reaction.
10. (WITHDRAWN) The kit of claim 8, wherein the probe is an antibody that specifically binds to human Mi, and the kit further comprises reagents that permit one to determine whether the antibody has bound to Mi.
11. (WITHDRAWN) The method of claim 5, wherein the level of Mi present in the nucleus is measured and compared to a base line control level of Mi.
12. (WITHDRAWN) The method of claim 5, wherein the activation state of the Mi in the nucleus is determined.
13. (PREVIOUSLY PRESENTED) The method of claim 2, wherein the antibody is a monoclonal antibody.
14. (PREVIOUSLY PRESENTED) The method of claim 13, wherein the antibody binds to an epitope in the N-terminus Taq-Sac fragment of human Mi.
15. (NEW) A method for screening for melanoma using immunohistochemistry to determine whether microphthalmia (Mi) is expressed comprising:
  - (a) contacting *in vitro* a biological specimen containing malignant cells with an antibody that binds to an epitope in the N-terminus Taq-Sac fragment of human Mi; and
  - (b) determining whether Mi is being expressed by the binding of the antibody to Mi, wherein said binding is indicative of Mi expression and, wherein the expression of Mi in a malignant cell is indicative of melanoma.
16. (NEW) The method of claim 15, wherein the biological sample is on a slide.

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17. (NEW) The method of claim 15, wherein the antibody is used to determine where in the malignant cell the Mi is expressed.

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